

## **Patient Characteristics Associated with Colon Cancer Screening**

The information available regarding patient characteristics associated with low reported colon cancer screening comes from analyses of the Behavioral Risk Factors Surveillance System (BRFSS) and other national surveys. The BRFSS is an on-going data collection program that measures preventive health practices and risk behaviors among a representative group of non-institutionalized adults in the United States. The data are collected via telephone interviews conducted in all 50 states and the District of Columbia. Limitations of data from the BRFSS are that it only includes people who have a telephone, are willing to participate in a telephone survey, and speak English.

Patient characteristics associated with low reported colorectal cancer screening fall into four main groups: demographic characteristics, socioeconomic characteristics, health and health care characteristics, and lifestyle and behavioral characteristics. An analysis of Washington 2002 BRFSS data shows that Washington state characteristics are very similar to nationally reported characteristics.<sup>1</sup>

### **Demographic Characteristics**

In general, self-reports of colon cancer screening appear to increase as adults move into older age categories.<sup>1-4</sup> Some studies show that women report less colon cancer screening than men.<sup>1,5,6</sup> However, an analysis of the Washington 2002 BRFSS found no significant differences between women and men.<sup>3</sup> Some studies report that African-Americans and Whites have the highest self-reports of colon cancer screening, and Hispanics, Asian/Pacific Islanders, and other racial/ethnic groups have the lowest.<sup>1,3,6</sup> However, other studies found no statistically significant differences among racial groups, or found that screening differences were only found among racial groups less than 65 years of age.<sup>1,4,5,7</sup> Immigrants above 64 years of age who have spent less than half of their lives in the United States were more likely to report they have not screened for colon cancer in the 2001 California Health Interview Survey.<sup>1</sup>

### **Socioeconomic Characteristics**

Studies consistently reported that screening decreases with income level and with education level.<sup>1-4,6</sup> According to an analysis of BRFSS data from 2002, employed men report less screening than unemployed and retired men, and men who are unable to work.<sup>3</sup> However, one could hypothesize that health status could confound the relationship between employment and receipt of colon cancer screening. That is, men who are unemployed, retired, or unable to work might be less healthy and thus more likely to see a doctor and be offered colon cancer screening.

### **Health and Health Care Characteristics**

Not having health insurance, a personal doctor, or a usual source of care is significantly associated with lower self-report of colon cancer screening.<sup>1-7</sup> In general, self-reported good health was associated with less colon cancer screening than self-reported fair or poor health.<sup>2,3,7</sup> However, a study using the 2001 California Health Interview Survey found that among adults 65 years of age or older, self-reported fair or poor health status was associated with less colon cancer screening.<sup>1</sup>

A study using 1999 BRFSS data and a call-back survey among Massachusetts adults found that 81% of patients who received a colon cancer screening recommendation from their provider followed the recommendation and were screened. The strength of the recommendation was also

associated with screening. Adults who did not perceive their provider recommendation for colon cancer screening to be very strong were less likely to receive screening than those who did.<sup>5</sup> The Washington 2002 BRFSS asked unscreened adults to state the most important reason they were not screened, and about 80% of the responses involved general lack of awareness and no physician recommendation.<sup>7</sup> These findings support qualitative research showing that a major reason for patients not obtaining colon cancer screening is that their physician did not tell them to screen.<sup>8,9</sup> Adults who were members of health maintenance organizations were likely to have more self-reports of colon cancer screening.<sup>5</sup>

### **Lifestyle and Behavioral Characteristics**

Adults who report being current smokers were less likely to report they received colon cancer screening.<sup>2,3</sup> In addition, persons who were not current for breast, cervical, and prostate cancer screening were more likely to report they were not current for colon cancer screening.<sup>2,5</sup> Also, adults who did not report adopting a low fat diet to reduce their risk of cardiovascular disease were less likely to report they received colon cancer screening.<sup>6</sup>

### **Conclusions**

A review of the colon cancer studies using BRFSS data suggests that interventions aimed at increasing colon cancer screening should focus on certain populations, including adults 50 to 64 years of age, Hispanics and Asian/Pacific Islanders, and adults without regular access to health care. More research is needed to understand the perspectives of those patient groups with lower screening rates in order to tailor appropriate interventions for them.

The importance of provider recommendation for colon cancer screening on patient follow-through also has important implications for interventions. A key method of increasing colon cancer screening will be to focus research on increasing the number and strength of provider screening recommendations.

### **References**

1. Beeker C, Kraft JM, Southwell BG, Jorgensen CM. Colorectal cancer screening in older men and women: qualitative research findings and implications for intervention. *J of Community Health* 2000; 25(3):263-78.
2. Brawarsky P, Brooks DR, Mucci LA, Wood PA. Effect of physician recommendation and patient adherence on rates of colorectal cancer testing. *Cancer Detection and Prevention* 2004;28:260-8.
3. Carlos RC, Fendrick AM, Patterson SK, Bernstein SJ. Associations in breast and colon cancer screening behavior in women. *Academic Radiology* 2005;12(4):451-8.
4. Carlos RC, Underwood III W, Fendrick AM, Bernstein SJ. Behavioral associations between prostate and colon cancer screening. *J Am Coll Surg.* 2005; 200(2):216-23.
5. Etzioni DA, Ponce NA, Babey SH, et al. A population-based study of colorectal cancer test use – results from the 2001 California Health Interview Survey. *Cancer* 2004;101(11):2523-32.
6. Goel, V, Gray R, Chart P, et al. Perspectives on colorectal cancer screening: a focus group study. *Health Expectations* 2004; 7:51-60.

7. Hannon P, Harris J, Healy N, Martin D. Washington State Department of Health colorectal and prostate cancer screening project: addendum to year 1 report. November 2004.
8. Ioannou GN, Chapko MK, Dominitz JA. Predictors of colorectal cancer screening participation in the United States. *Am J Gastroenterol* 2003;98(9):2082-91.
9. Zapka JG, Puleo E, Vickers-Lahti M, Luckmann R. Healthcare system factors and colorectal cancer screening. *American Journal of Preventive Medicine* 2002;23(1):28-35.

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